Research Plan Update

- Updating December, 2000 Research Strategy to serve as a research plan within the updated Enterprise strategy framework.
- Incorporating science focus areas as the primary organization for Enterprise research.
- Embracing the U.S. Climate Change Research Program (CCRP) and Climate Change Technology Program (CCTP) strategic plans.
- Addressing the evolving challenges of the Earth observations agenda.

Research Plan Outline

1. Introduction
   - NASA and Enterprise vision and missions
   - Scientific rationale, Earth system concepts and change
   - Intention of the Research Plan
2. Approach to Earth System Science
   - Hierarchy of science questions
   - Science focus areas and road maps
   - Observations
   - Modeling, analysis, and predictions
3. Resources
   - NASA centers, University participation
   - Data systems, high-performance computing
4. Implementation
   - Criteria and process for evaluating priorities
   - Program metrics and evaluation
   - Community participation in program planning
5. Relationships to Other Programs
   - U.S. Climate Change Research Program
   - International (IGBP, IPCC)

Research Plan Revision Process

- September 30, 2003: Draft circulated for comments.
- January 22, 2004: Review and comments by NASA center representatives provided recommendations for document reorganization.
- February 26–27, 2004: Workshop with NASA center representatives and selected university investigators.
- April–May, 2004: Draft for formal reviews and community comment, including ESSAAC.
- June–July, 2004: Final revisions.

ESSAAC Participation in Updates

- Review of and comment on interim drafts.
- Particular attention to linkages between science focus areas and relationships to other Enterprise plans.
- Consider consistency with the CCSP strategic plan as well as with the international agendas, such as the IGBP and WCRP frameworks.
- Leadership in community review and comment process.

Applications Plan

Status

- Restructured based on comments and guidance from recent Focus Area Review (Jan. 22-23)
- 80% of comments from initial reviewers incorporated
- Text in good shape; images & examples being refined

Process for Completion

- Feb. 10: Version 2.0 ready for ESSAAC distribution
- Feb. 18-19: Request in-depth review by sub-set of ESSAAC
- Feb. 18 - March 10: Period of review by Applications Team, Code Y, and ESSAAC sub-set
- March 10-15ish: Telecon to discuss comments
- March 15-20: Finalize plan and send to printer

Applications Plan

Outline

-- Preface; Letter from G. Asrar

1. Earth Science Exploration for Society
2. Extending Earth Science Results: A Systems Approach
3. Goals and Objectives: 2004 - 2012
4. Program Execution and Performance
5. Challenges and Risks

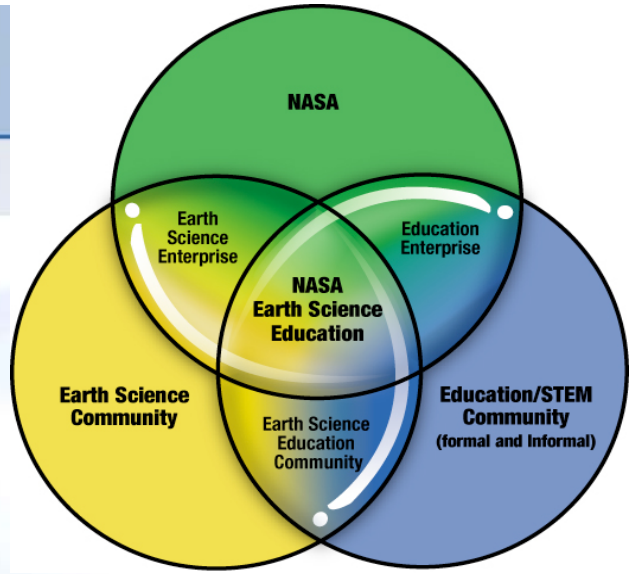
-- Appendices

ESE Education Plan

- **Current status**
  - Concurred by Management in both Code Y and Code N
  - Word file posted at http://earth.nasa.gov/education/
  - Layout underway

- **Process used in its development**
  - S.W.O.T. analysis, including both internal and external perspectives
  - Alignment with agency-wide goals/objectives and operating principles
  - Discussions with ESSAAC (Roberta Johnson & Mike Goodchild)
  - Reviewed by leaders and colleagues at the Centers and in the Earth Science Education community at-large

ESE Education Plan (cont'd)



- Outline
  - Establish the context for ESE Education
  - Provide cross-walk between Agency goals/ objectives in Elementary/Secondary, Higher, and Informal Education, and contributions from ESE Education
  - Emphasize Information Infrastructure and Network of Partners in our approach to scalable, sustainable and systemic solutions in enabling continuous, engaging and dynamic learning about the Earth system
  - Describe current program implementation and performance measures
  - Highlight management responsibilities of various elements of NASA
- Next steps
  - Deliver to printer in mid March 2004 (???)
  - Articulate annual performance outcomes through road-mapping in two stages, with the 1st (late 2004) to emphasize current community and gap in capability, and the 2nd (mid 2005) to broadly expand network of partners and develop concrete steps to improve information delivery

Technology Plan Update

Status

- Updating June, 1999 Earth Science Technology Strategy to conform with NASA and ESE strategy revisions.
- Rewriting strategy to support revised Science Plan emphasizing science focus areas.
- Outline:
  - Introduction
  - Program Approach
  - Program Execution
  - Appendices: Theme-based technology roadmaps (supports science focus areas)

Technology Plan - Annotated Outline

Introduction

- **The ESE Mission** — references to ESE strategy.
- **Role of the Technology Program** — Biennial review recommendations, the enabling function of technology for ESE.
- **Program Priorities, Challenges, and Drivers**
  - Driven by priorities established by the Science portion of the Enterprise.
  - In particular, *geospatial coverage*, *information exchange*, and *computing capabilities* are emphasized by the program and are addressed by the "observing technologies" and "information and computing technologies" thrust areas.
  - Priorities within these thrust areas include: 1) active sensing, 2) large deployable antennas, 3) distributed platform architectures (sensorwebs), and 4) access to knowledge.
- **Program Goals** — 1) to formulate the best technology portfolio for ESE; 2) to fund and oversee tasks that develop technology products; and 3) to proactively infuse technologies into ESE missions and infrastructure.
- **Program Outcomes** — illustrates progress to date towards meeting program goals. Graphics show the number/variety of FY03 tasks and their geographical distribution. A "success story" picture gallery shows ESTO-funded technologies and how they suppport ESE programs.

Technology Plan - Annotated Outline (cont'd)

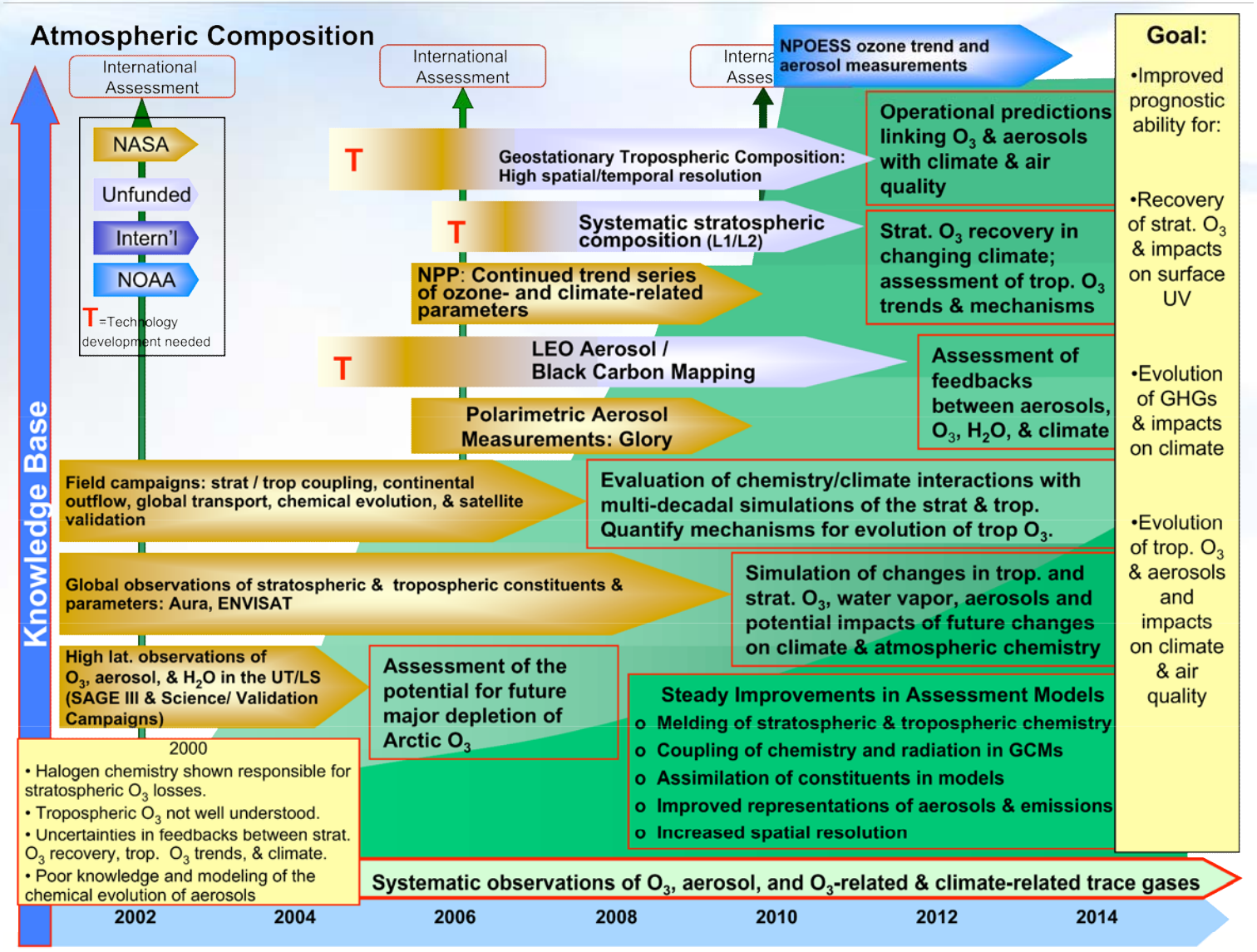
Program Approach

- **Functional Structure** — Shows ESTO WBS chart and describes functions and responsibilities of each "functional element".
- **Functional Elements** — describes ESTO elements and areas of responsibility.
  - **Advanced Technology Initiatives**
  - **Observing Systems Development**
  - **Information/Computing Systems Development**
  - **Systems Demonstration/Validation**
- **Internal (NASA) Partners** — explains the involvement of NASA centers and their supporting roles.
- **External Partners** — explains the involvement of federal agencies, academia, and industry and their supporting roles. A table shows a list of Academia, National Labs, Small Corporations, and Large Corporations which collaborate with ESTO.

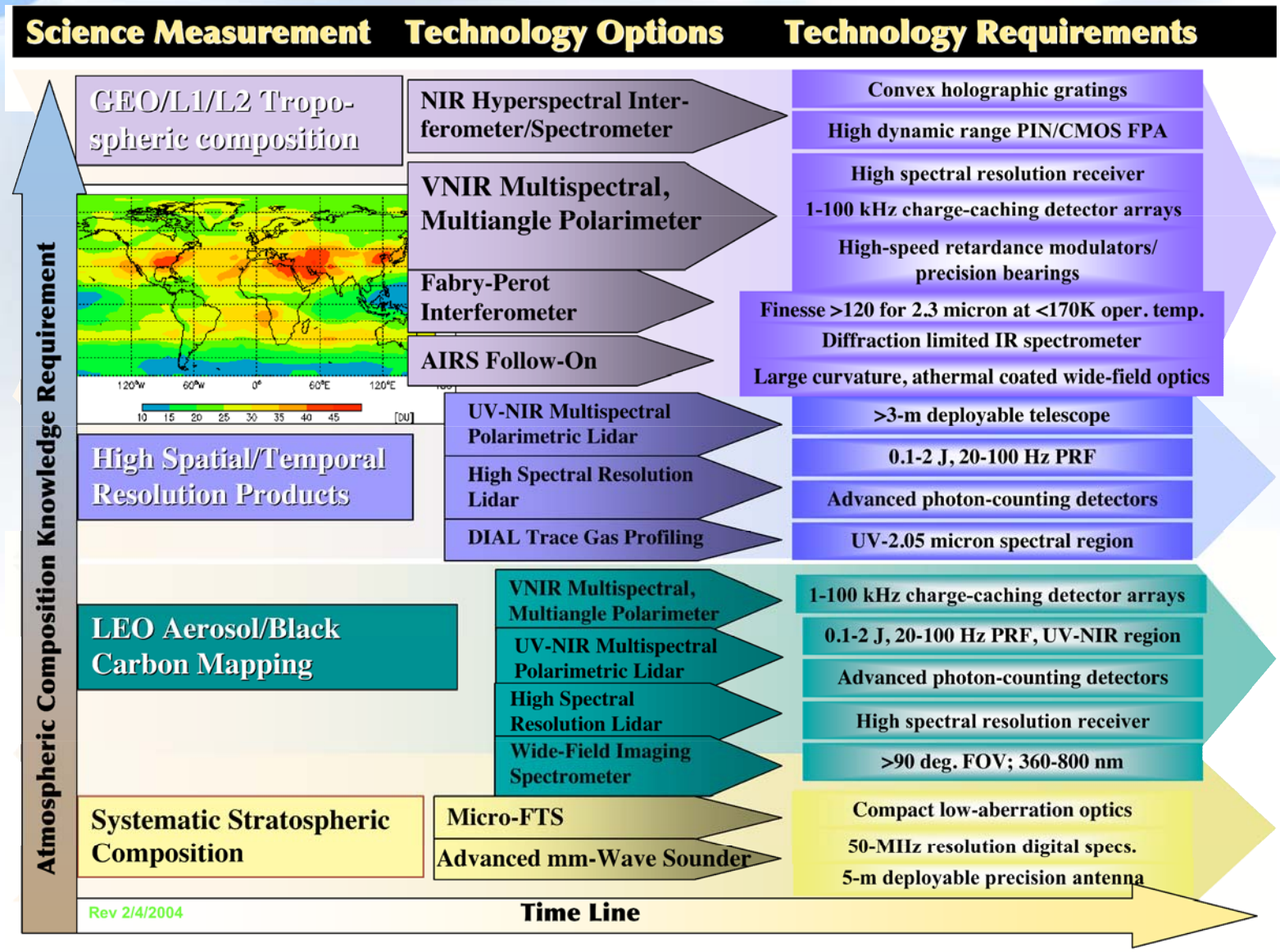
Program Execution

- **Portfolio Development Process** — discusses process used to formulate the technology portfolio. Process is guided by science "focus areas" which provide direction for the technology program's competitive solicitations.
- **Technology Thrust Areas** — thrust areas used as a "focusing" mechanism. Thrust areas are *observing technologies* and *information and computing technologies*.

An Example Science Focus Area

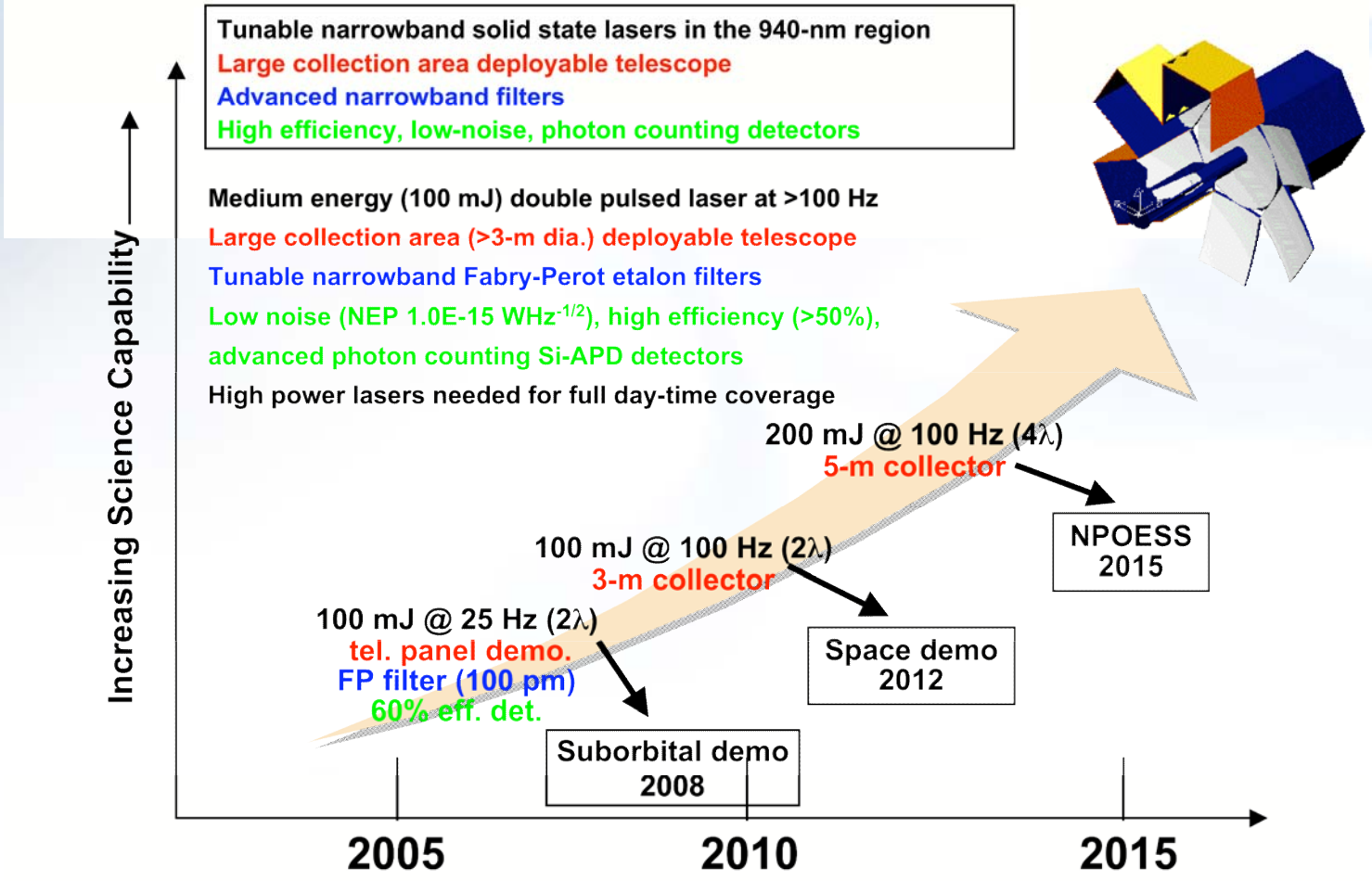


An Example Technology Translation



A Specific Example

High Spatial/Temporal Resolution Products: Water Vapor Differential Absorption Lidar



Schedule

Activity	2004					
	Jan	Feb	Mar	Apr	May	Jun
Annotated Outline		Feb 10 ▽				
ESSAAC update		Feb 19 ▽				
Technology Strategy Team review/discussion		Feb 19 ▽				
Draft			Mar 12 ▽			
Steering Committee (HQ)			mid-Mar ▽			
Technology Strategy Team review/update			Mar 17 - 24 ▽			
Revisions Incorporated				Apr 2 ▽		
Technology Strategy Council (TSC)				Apr 6 - 14 ▽		
Plan Approved and Published					May 1 ▽	